

Task-3

Deliverables:

1. Clustering Results:

- **Number of clusters formed:** 4
- **DB Index:** 1.1660094885100918
- **Silhouette Score:** 0.3252531310797527

2. Cluster Insights:

- **Cluster 1:** High-spending customers with diverse product preferences.
- **Cluster 2:** Budget customers with frequent small transactions.
- **Cluster 3:** Loyal customers concentrated in a specific region.
- **Cluster 4:** New customers with low transaction history.

3. Visualizations:

- **Elbow Plot:** Shows the optimal number of clusters.
- **Cluster Scatter Plot:** PCA visualization of clusters.